

AP Biology Summer Assignment Part I
Introduction to AP Biology, Chemistry/Biochemistry and Biological Language
(prefix and suffix)

Welcome to AP Biology, I am excited to work with all of you this upcoming year. We are going to hit the ground running when we return, and for that reason I need you all to be prepared with some summer work.

The AP Biology Test is our final goal and in order to be ready for that, we have many chapters to cover. Some of these chapters will feel like reviews from previous Biology classes, but some will be new. Essentially, we will begin the year already short on time.

A few guidelines: The packet can be printed out and written in or can be typed on but please use a red as the font color.

If answers are on a separate piece of paper – these should be stapled to the back of the packet when turned in.

ALL WORK MUST BE STAPLED AND READY TO TURN IN. THESE PACKETS WILL BE COLLECTED ON THE FIRST DAY OF CLASS – NO EXCEPTIONS.

Any questions let me know. See you soon!!

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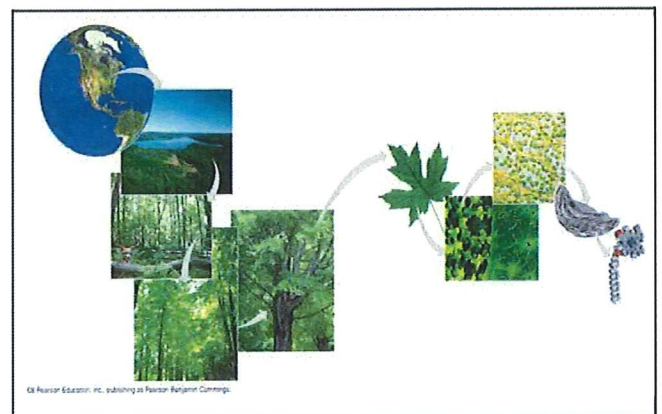
Name _____
Date _____

Chapter 1: Introduction: Themes in the Study of Life Begin your study of biology this year by reading Chapter 1. It will serve as a reminder about biological concepts that you may have learned in an earlier course and give you an overview of what you will study this year.

Concept 1.1 Themes connect the concepts of biology

- What are **emergent properties**? Give two examples.

- Life is organized on many scales. Figure 1.3 zooms you in from viewing Earth from space all the way to the level of molecules. As you study this figure, write in a brief definition of each level.



biosphere

ecosystem

community

population

organism

organs/organ systems

tissues

cells

organelles

molecules

- As you read this section, you will be reminded of things you may have studied in an earlier course. Since this material will be presented in detail in future chapters, you will come back to these ideas, so don't fret if some of the concepts presented are unfamiliar. However, to guide your study, define each of the terms in bold as you come to them.

eukaryotic cell

prokaryotic cell

DNA

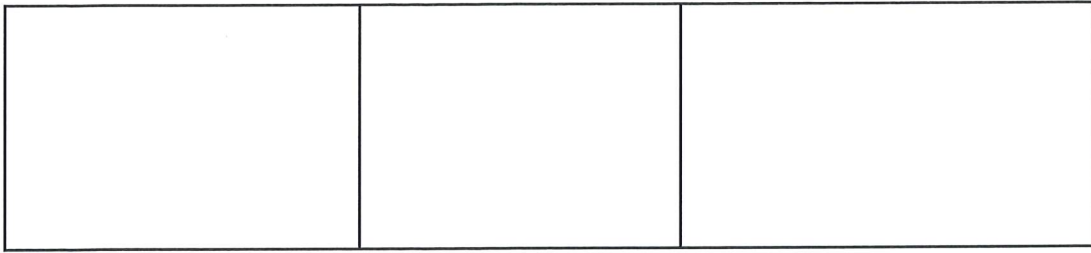
genes

genome

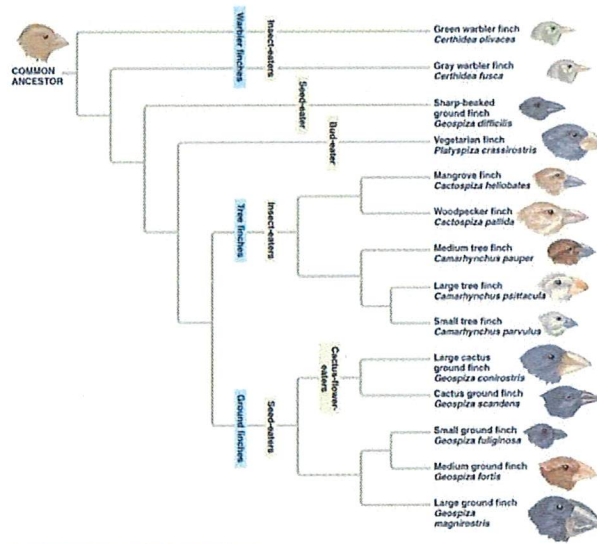
negative feedback/positive feedback

Compare and Contrast prokaryote vs. eukaryote

Prokaryote	Similarities	Eukaryote
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- Study Figure 1.16, which shows an evolutionary “tree.” What is indicated by each twig? What do the branch points represent? Where did the “common ancestor” of the Galápagos finches originate?



Concept 1.3 Scientists use two main forms of inquiry in their study of nature

- What are the two main types of scientific inquiry? Give an example of each.
- What is *data*?
- Distinguish between quantitative and qualitative data. Which type would be presented in a data chart and could be graphed? Which type is found in the field sketches made by Jane Goodall?

- In science, how do we define *hypothesis*?
- A scientific hypothesis has two important qualities. The first is that it is *testable*. What is the second?
- Are scientific hypotheses proved? Explain your answer!
- Look at Figure 1.19. Use it to write a hypothesis using the “If . . . then . . .” format.
- What is a *controlled experiment*?
- The text points out a common misconception about the term “controlled experiment”. In the snake mimicry experiment, what factors were held *constant*?
- Why are supernatural explanations outside the bounds of science?
- Explain what is meant by a scientific *theory* by giving the three ways your text separates a theory from a hypothesis or mere speculation.

1.

2.

3.

Testing Your Knowledge: Self-Quiz Answers (Pg. 17) Now you should be ready to test your knowledge. Place your answers here:

1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____